A Mediterranean: *Myrtus communis* L. (Myrtle)

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Özet

Myrtus communis L. (mersin, murt), Akdeniz florasının karakteristik bir temsilcisidir. 1-3 m boyunda çekici, aromatik bir çalıdır. Hoş kokulu beyaz çiçekleri Mayıs ve Ağustos ayları arasında görülür. Yenilebilen mavi-siyah meyveleri yazın olgunlaşır. Mersin antik çağlarda, Afrodit'in ve onun Roma'daki karşılığı Venüs'ün kutsal bitkisiydi ve o dönemde aşkın sembolü haline geldi. Belki de her dem taze olması ölüm karşısında yaşamın gücünü temsil ettiğinden, antik ayinlerde ve kutlamalarda, ayrıca mezarları süslemede kullanıldı. Ölümsüzlükle ilgili bu bağlantının günümüzde de halen sürdüğünün kanıtı, Batı ve Güney Anadolu'daki köy mezarlıklarında bulunan üstleri murt dalları ile kaplı mezarlardır. Eski zamanlardan beri murt aynı zamanda tedavide, yiyecek ve baharat olarak kullanılmaktadır. Bu çalışmanın amacı, *M. communis* imgesinin Anadolu ve Doğu Akdeniz'deki izini sürmektir.

'Shores are happiest with myrtle'
Vergil (*Geo*. 2.112)

Among the earth's more than one hundred warmth-thriving myrtle varieties, surely none has such regional cultural significance as *Myrtus communis* L., a native of the Mediterranean and Asia Minor (present-day Turkey). Like all evergreen plants with a pleasant aroma, in that region it was also a symbol of strong life force (Heilmeyer 2007).

Botany

Myrtus L. is a small genus belonging to the Myrtaceae family which includes approximately 100 genera and 3000 species growing in temperate, tropical and subtropical regions. *M. communis* is the only Myrtaceae species native to Europe (fig. 1). It is widespread throughout the Mediterranenan region and the Middle East where it grows wild and is also cultivated. It is the only species of the genus found in the Northern Hemisphere (Traveset *et al*. 2001). It is an evergreen shrub that grows to a height of about 1-5 m. The oppositely arranged leaves are ovate-lanceolate, 2-5 cm long, coriaceous, glabrous, punctuate-glandular and entire. When crushed, they have a delicate aromatic odor. White, star-like flowers, which have five petals, five sepals and a mass of tufted stamens, appear from June to September. After the summer, subglobose to ellipsoid berries, which are bluish-black (or rarely yellowish-white) on ripening, appear around November (Davis 1982).

The flowers are pollinated by insects and have a specialized strategy of seed dispersal by birds, mammals and ants. *M. communis* seeds have no apparent dormancy. As a consequence, germination can occur soon after dispersal and their strategy of rapid establishment might allow seedlings to take advantage of

1. - *Myrtus communis*.

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autumn and winter rains during the crucial first stages of growth. These features can be considered advantageous in order to maximize reproductive success, with seedling establishment and survival in Mediterranean environments (Traveset *et al*. 2001; Aronne and De Micco 2004).

Etymology [1]

Myrtle has closely associated names in most European and even some non-European languages; besides English *myrtle*, German *myrte*, Estonian *mürt*, Spanish and Italian *mirto*, French *myrte*, modern Greek *mirtia* [μυρτιά], Russian *myrt* [мырт], Armenian *mrdeni* [մրտենի] and Farsi *mourd* [مورد] and Turkish *murt*.

All these names relate to the Old Greek *myrtos* [μύρτος] or *myrsine* [μυρσίνη] and were typically transmitted via Latin *myrtus*. The name derives from Greek *myron* [μύρον] meaning balm, chrism, ointment, which might be a Semitic loan and thus related to Hebrew *mor* [מר], myrrh (which is a reddish-brown resinous material, the dried sap of a number of trees, but primarily from *Commiphora myrrha)*. Some other fragrant plants bear similar scientific names, e.g. *Myristica* (nutmeg), *Myrrhis* (cicely) or *Myrica* (gale).

History

Myrtle, as a typical shrub of the Mediterranean maquis, not only features in mythology, rituals and ceremonies of ancient history but also has been an important plant of the daily life of the people of this region from time immemorial; as the Gilgamesh, known as the oldest written story on Earth, tells us beyond four to five millennia: «I offered incence in front of the Mountain-Ziggurat. Seven and seven cult vessels I put in place and (into the fire) underneath (or; into their bowls) I poured reeds, cedar and myrtle. The gods smelled the savor and collected like flies over a (sheep) sacrifice» (Tablet XI, *The Story of the Flood*) (Kovacs 1989).

Mediterranean Antiquity

Mythology and Rituals

In ancient mythology, myrtle was sacred to Aphrodite – Greek goddess of love, sex and beauty – and her Roman equivalent Venus, as it was to the Mesopotamian goddess Ishtar, hence it became the plant of love. With its evergreen leaves, elegant white flowers and pleasant perfume, it also symbolized beauty and youth. There is little information in the Greek literature before Plutarchus (Roman historian of Greek origin, AD 46-120) (*Marcellus 22.4*) connecting myrtle with Aphrodite, but apparently there were temples to Aphrodite where a sacred myrtle was cultivated (fig. 2). Aristophanes (Greek playwright, c. 450-c. 380 BC) uses "myrtle" as a euphemism for the female genitalia (*Lysistrata 1004*) (Staples 1998; Ferber 2007) Pausanias (Greek traveller and geographer of the 2nd century AD) explains in his *Description of Greece* that presence of rose and myrtle in Aphrodite worship relates directly to the story of Adonis (*Pausanias, Elis 2, 7*). The Graces, attendants of Aphrodite, are also associated with myrtle (fig. 3). One of the Graces in the sanctuary at Elis (Greece) holds a myrtle branch (*Pausanias, Elis 2-6)*.

According to Ovidius (Roman poet, 43 BC - AD 17), a story has emerged of Venus rising from the sea at birth covered with myrtle, which often grows by the shore. Venus' son Aeneas shades his temples with "maternal myrtle" (*materna myrto*) before the games (*Aeneid 5.72*) and later in the underworld he sees a myrtle grove where those who died of love wander disconsolate (*6.443*) (Ferber 2007).

An anecdote quoted by Athenaeus (Ancient Greek author, c. AD 200) illustrates the link between Aphrodite and myrtle: Herostratos, a merchant plying the waters between Cyprus and Egypt, buffeted by a terrible storm, all aboard his ship prayed to Aphrodite to save them. Fresh myrtle sprouted around the small statue of the goddess, permeating the air with its sweet scent and soothing the seasick men as the skies cleared. The crew safely arrived in Egypt and Herostratos was moved to a sanctuary to dedicate the image and to distribute crowns of the miraculous myrtle to her worshippers (Larson 2007).

Because Aphrodite was associated with it, myrtle took an important place in the Aphrodite rituals. Myrtle crowns were distinctive features of her worship. Ovidius mentions three ritual prescriptions: first, the statue of the goddess was to be stripped, washed and re-adorned; second, the women themselves were to bathe under boughs of myrtle; and third, they were to drink a ritual potion. Ovidius provided a myth to explain the necessity for bathing under the myrtle. Once, after a bathe, Venus used a myrtle bough to screen herself from the lewd gaze of satyrs (Larson 2007; Staples 1998).

The scholium to line 330 of *Frogs* of Aristophanes lists the myrtle, in addition to the ivy and the vine, as the third favorite plant of Dionysus, the god of wine. He was one of the very few that was able to bring a dead person out of the underworld. Even though he had never known his mother Semele, he journeyed into the underworld to carry away her from the dead. The underworld god, Hades, normally reluctant to release the dead, would have only agreed if Dionysus could have left something as important to life as a surrogate for Semele. So, Dionysus gave him the myrtle plant. This is the basis for the belief that myrtle belonged both to Dionysus and to

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2. - Aphrodite driving a chariot drawn by Erotes; attic red figure, c. 450-400 BC, Museo Archeologico Etrusco, Florence, Italy (www.theoi.com).

3. - The younger Kharites Eudaimonia, seated holding a necklace, and Pandaisia, carrying a myrtle; attic red figure, ca 450-400 BC, British Museum, London (www.theoi.com).

the dead. Moreover, all evergreens like myrtle, box, ivy, laurel were Dionysiac plants, that is symbols of generative power, signifying perpetuity of youth and vigor. Every Dionysian worshipper wore a myrtle wreath in his rituals (Knight 1993; Otto and Palmer 1995; Grimal 1987).

There is also a link between myrtle and the Bona Dea (the Good Goddess), a very old Roman deity of women, fertility, healing and virginity. Bona Dea worship was exclusively confined to women. A festival to her was held at the start of May and not even male animals were allowed to this celebration. Myrtle was also excluded from the cult because, as the mythologists relate, this goddess was the wife of the god Faunus and, after having been found out drinking wine in secret, was beaten to death by her husband with myrtle twigs. Both myrtle and wine were again mentioned in another story: the goddess was the daughter of Faunus and that she resisted the amorous advances of her father who had fallen in love with her, so that he beat her death with myrtle twigs because she did not yield to his desires though she had been made drunk by him on wine. As a result myrtle was excluded from the rites altogether and wine – as libation in her honour – was brought in a honey pot and cold milk. Plutarchus also surmised that the reason for the exclusion of myrtle was because it was a plant sacred to Venus and Bona Dea was a chaste goddess (Brouwer 1989; Staples 1998).

When a myrtle leaf is held up to the light it looks as though it has been pierced many times with a needle which are in fact the glands of volatile myrtle-oil. A myth attributes these to the unhappy Phaedra as told in the ancient tragedy *Hippolytus*, by the great Greek tragedian, Euripides (480-407/6 BC). Phaedra married King Theseus who had a son, Hippolytus, from a previous marriage to the Amazonian queen Hippolyte. Because young Hippolytus angered Aphrodite by shunning her worship and devoting himself to Artemis – the virgin goddess of the hunt – to punish him Aphrodite compels Phaedra to begin lusting after her stepson. With her impossible and illicit passion, Phaedra used to recline idly all day long under the myrtle tree and used to pierce the myrtle leaves with her hairpin to avenge herself on Aphrodite because she had not granted her power over Hippolytus. Since he refused her and her passion for him became known, Phaedra hanged herself leaving a letter in which she charged her stepson of having assaulted her. Theseus proceeds to uncon-

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ditionally curse Hippolytus and calls upon the sea-god, Poseidon to destroy him (Baumann 1993; Berens 2007; Gregory 1997).

The ancient Persians also regarded myrtle as a holy plant. Herodotus (Greek historian, c. 484- c. 420 BC) in his *History* narrates the Persian sacrifice ceremony in detail. He says: «The sacrificer brings his victim to a spot of ground and then calls upon the name of the god to whom he intends to offer. It is usual to have a turban encircled with a wreath, with commonly of myrtle» (Davis 1912).

Daily life

Theophrastus (Greek philosopher and natural scientist, c. 371- c. 288 BC) cites myrtle on some occasions. He refers (F81) to an old recommendation that olive and myrtle trees need hard pruning to promote growth and fruitfulness. The importance of pruning for fructification is emphasized. He also tells about (F82) the sympathy between olive and myrtle trees, which entwine their roots so the myrtle's fruit becomes tender and sweet whilst the olive shelters it from sun and wind (Keyser and Irby-Massie 2008; Isager 1995).

Theophrastus has also left us a description of the woods of Latium as they were in the fourth century before Christ. He says: «The land of the Latins is all moist. The plains produce laurels, myrtles and wonderful beeches...» (Frazer 1922).

Herodotus usually mentioned myrtle in connection with sacrifices and festal occasions: myrtle was strewn on the roads by the Persians to celebrate their capture of Athens (vii. 99, cf. 54) and myrtle boughs were used for drawing up pitch out of a pool in Zacynthus (iv 195) (Forster 1942).

In Athens, fragrant myrtle wreaths could be worn at sacrifices, banquets and weddings, and its berries were eaten as a dessert dish. Myrtle's association with the goddess Aphrodite is part of a pattern which connects the plant's appealing scent with sexual desire. In the *Lysistrata*, Aristophanes puts this notion vividly on stage when Myrrhina teases her husband with the prospect of sex (*Lys. 889-953*). Myrrhina is a conventional comic name derived from myrtle (Connors 1997).

Wreaths of foliage, generally of laurel, olive, myrtle etc. appear upon coins, sometimes encircling symbolical figures and sometimes as chaplets on their heads signifying the perpetuity of existence. Hence the crowns of laurel, olive, myrtle etc., with which the victors in the Roman triumphs and Greek games were honoured, may be considered as emblems of consecration to immortality and not as mere transitory marks of occasional distinction (Knight 1993). Plinius (ancient natural philosopher and author, AD 23-79) reports that a Roman commander was crowned with the myrtle of Venus Victrix (Venus the Victorious) for a victory in which no one was slain (*Natural History 15.38*) (Ferber 2007).

In Athens, the pillars which stood in front of the houses were decorated with branches of laurel or myrtle and received offerings of incense or oil (Larson 2007). Pausanias (iii. 22) mentions certain colonists who were guided by a hare to a site where the animal hid in a myrtle bush. They therefore adore the myrtle (Lang 2001).

Both myrtle's connection with festivals and its association with love, a common subject of song, may account for its use as a crown for poets, along with laurel, ivy or oak. A famous drinking song collected by Athenaeus tells of the two liberators of Athens: «In a myrtle bough will I carry the sword / Like Harmodious and Aristogiton / When they killed the tyrant / and brought equality to Athens» (*Deipnosophistae 15.565*). It is hard to see how myrtle branches could have concealed swords, but myrtle doubtless adorned the festival where the tyrant was killed and poetic point may lie in the contrast between the festive and friendly connotations of myrtle and the contrary sense of sword: Myrtle of love that defeats the tyranny and not the sword (Ferber 2007).

Athenaeus made the participants in the banquet described in his narrative *Deipnosophistai* wear myrtle crowns to combat drunkenness. Goldsmiths and silversmiths modelled the myrtle with great skill in artistic objects. The gold myrtle wreath which was discovered in a royal tomb in 1977 at Vergina, Macedonia, is of remarkable beauty and possibly dated about 340 BC (Baumann 1993).

Funeral rites

Myrtle was also considered as a death tree. It has been used in funerary rites, together with mint and rosemary, to offset the smell of decay by ancient Greeks and Romans (Graves 1955). The *Electra* of Euripides mentions myrtle several times related to the funeral rites: «Agamennon's grave, dishonoured, has not yet ever received any libations, or branch of myrtle» (Line 320). «... I wept for its desolation; then I opened the wine skin which I am bringing to the guests and pour libation and set myrtle sprigs round the tomb» (Euripides 2007). The myrtle and many other emblems employed in funerals are all significant of life rising out of death and of the equivocal condition of dying yet immortal man (fig. 4).

Medicine

There are ample references to myrtle in ancient Egyptian medical texts as a remedy for urinary disorders, pain, heartburn, swelling, stiffness of the limbs, cough and to remove mucus from the chest. In Coptic medicine, the essential oil of myrtle was used in a prescription with fresh rue and a mineral

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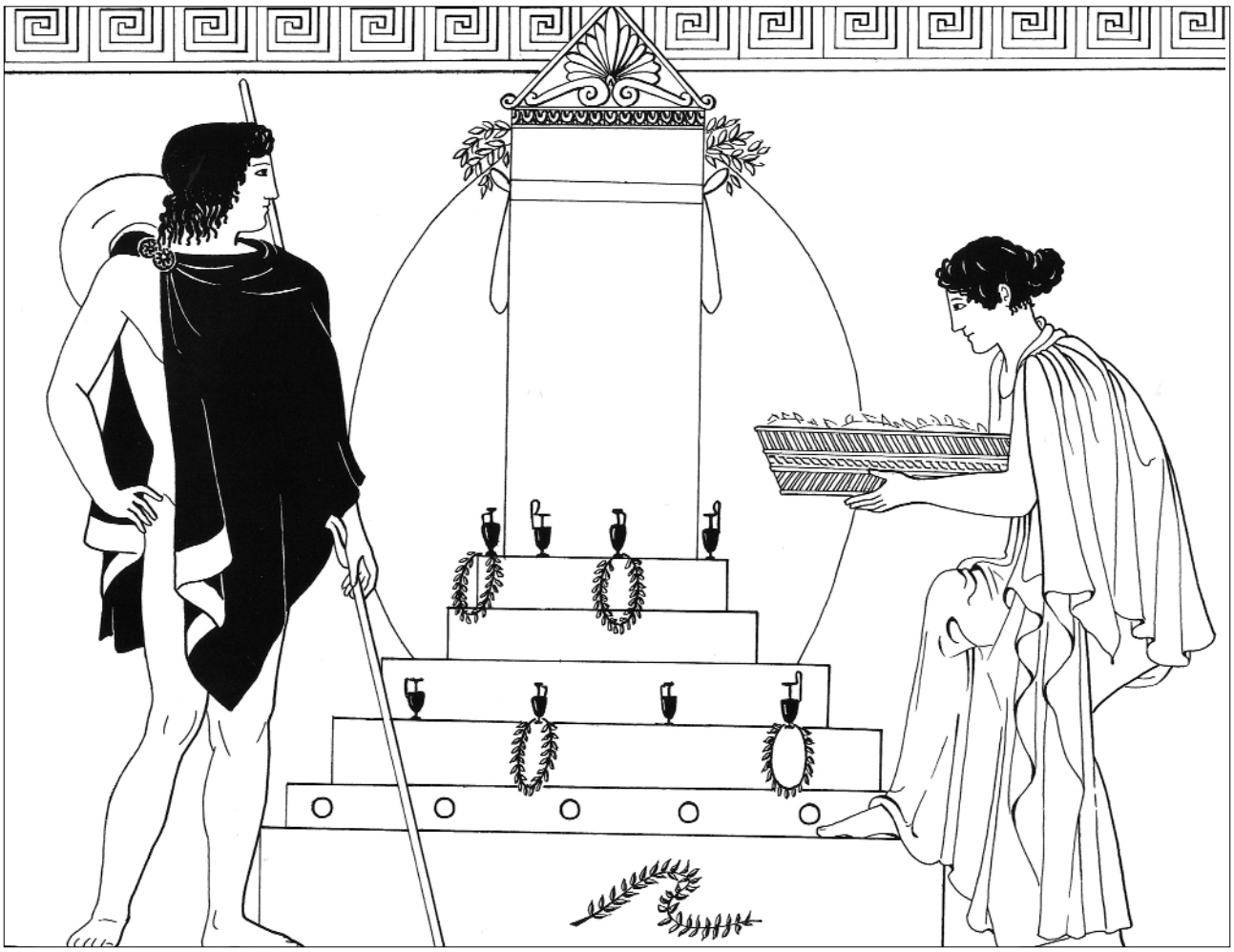

4. - Myrtle wreaths on the steps of a tomb, white-ground lekythos, c. 440-430 BC, Staatliche Antikensammlungen, Munich (Dayagi-Mendels 1993).

for a number of skin ailments (*Ch 219*) (Manniche 1999).

Soranus (a Greek physician from Ephesus, 1st-2nd century) mentions myrtle under the title of contraceptions and recommends smearing the cervix with a paste of myrtle oil with white lead to block the passage of sperm. Myrtle was known as an antifertility agent and it was also included in some oral contraceptives suggested by Soranus: «Myrtle, wallflower (or stock), bitter lupines in equal quantities; mix with water and mold into pills the size of a bean» (Lefkowitz and Fant 1977; Riddle 1992).

Galen of Pergamum (a Roman physician and philosopher of Greek origin, AD 129-200) transmits the information about a powder (Flauius' powder) for 'dysentery': myrtle, roses, juniper berries, etc., taken with diluted wine. In some ancient preparations, myrtle wine was mentioned as a vehicle. For example, the physician Andromakhos notes in *Galen* CM*Loc* 9.5 (13.296 K.) that he employed an enema containing minerals (lime, realgar, etc.), plus sour grapes and papyrus ash, in myrtle wine. The Byzantine physician Aetios of Amida (city of Diyarbakır in modern Turkey) from the 6th century records his opium-based pill for "blood-spitting" containing also frankincense, myrtle, saffron and roses, etc. (Keyser and Irby-Massie 2008).

In his book *De Alimentorum Facultatibus* – his major work on the dynamics and kinetics of various foods – Galen explains the features of the myrtle-berry: «Like the juniper berry, it is devoid of nutriment, but it has the opposite property. For it is exceedingly astringent and as a result is constipating. Nevertheless it is not cold in property in portion to its astringency, because not only has it astringency, but some pungency has also been mixed with it» (Powell 2003).

Dioscorides (the Greek pharmacologist and botanist, born in Tarsus, modern Turkey, AD c. 40-90) makes a distinction between the usual bluish-black fruit and the less profitable white one (1.55). He prescribes it to cure respiratory complaints, for the bites of poisonous spiders and scorpions and much else, including the juice of the cooked berries mixed with wine for intestinal inflammation. Myrtle was also one of the plants that Dioscorides recommended for menstrual problems as a sitz bath but not superficially as an emmenagogue

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(Baumann 1993; Riddle 1992; Gunther 1959). He also described the preparation of the oil, saying that the leaves were steeped in olive oil so that the latter absorbed the fragrant oil contained in the leaves (Manniche 1999).

Judaism, Christianity and Islam

Myrtle is a venerated tree a branch of which was used as an essential accompaniment in all religious functions (Philpot 2004). The myrtle is used by prophets to indicate a change on the face of the earth, when the knowledge of the Lord shall cover the earth as the waters cover the sea. Thus Isaiah, when speaking of that blessed epoch, says: «Instead of the thorn shall come up the fir-tree; and instead of the brier shall come up with myrtle-tree; and it shall be to the Lord for a name, for an everlasting sign that shall not be cut off» (Isa. lv. 19). Again, the Lord says by the prophet: «I will plant in wilderness the cedar, the shittah-tree and the myrtle and the oil-tree» (Isa. xli. 19) (Balfour 1857).

It has been stated that Hadasseh, the original name for Esther (a Jewish queen of the Persian Empire who risked her life to save her people), is derived from the Hebrew word Hadas, meaning myrtle. It has also been conjectured that Esther is formed from the word *as*, an Arabic name for myrtle and from the Persian word *setareh* meaning star, since the myrtle blossom resembles a twinkling star. According to the Midrash, myrtle typifies Esther: «Myrtle which spreads fragrance as Esther spread grace; myrtle fades not in winter, but is fresh in winter». The Jews also employed the myrtle as an emblem of justice (Balfour 1857; Abrahams 2004).

Myrtle has also become popular for the Sukkot, a Jewish festival of thanks giving for the autumn harvest as well as the commemoration of the departure from Egypt. Many Jews come to Sukkot morning services carrying a lulav and etrod, known collectively as the "four species". The etrog is a lemon-like fruit or citron. The lulav bundle contains different types of tree twigs: palm, myrtle and willow. Their use as ceremonial objects goes back to biblical times. Jewish scriptures instruct Israelites to take "the fruit of beautiful trees" along with «branches of palms, boughs of thick-tree foliage and willows of the brook and rejoice in the presence of God for seven days». The "thick tree" is interpreted to be myrtle. It represents the thick thorny forests that the Israelites encountered when they returned to Israel. These mountainous forests were very difficult to penetrate. Though myrtle does not have the thorns of the trees that the Israelites struggled with, myrtle has come to represent the "thick-tree" because it grows in dense bushes on mountains throughout many areas of Israel. Additionally, according to the Midrash Rabbah (30: 14), the four species represent different parts of the human body. The etrog resembles the heart, the palm branch represents the spine, the myrtle has small leaves which are like eyes and the willow resembles the lips (Weber and Weber 1999; Terry 2000; King and Stager 2001).

On the evening of the Sabbath, Jews remember the lamps and incense of the Temple in Jerusalem, when blessings are made over the *havdallah* candle and spice box. Different spices are used, but myrtle has been called "the quintessential fragrant plant of Israel" and is often preferred, when available. Indeed, the spice box is called *hadas* by many Ashkenazic and Sephardic Jews (Worwood 1998).

In Christianity, myrtle was given as a sacred plant to the Virgin Mary, to symbolize purity and fertility. Crowning typifies purity also and at early Christian weddings the couple were crowned by the priest with garlands of myrtle after he had blessed the marriage ceremony. The wearing of the crown on the head is derived from early Christian tradition (Webber and Cram 2003; Folkard 1884).

There is an interesting account for myrtle by an Arab writer, who died in 1034, «I once entered at night» he says «into the principal Christian Church. I found it all strewed with green branches of myrtle and planted with cypress trees...» (Haines 1889).

There are many collections of traditional sayings of the Prophet Mohamed on the subject of medicine. In a translation of one such compilation, Tibb-ul-Nabbi (Medicine of Prophet), said to the Prophet: «If anyone offers you myrtle as a present, do not refuse it. It is from the Heaven». This plant is also held in high esteem by Said Ibn 'Abbas: «When the Prophet Noah descended from the Ark, the first thing that he planted was myrtle». And again from the same author: «Adam departed from paradise with myrtle, which is the queen of all sweetsmelling bushes in the world, together with dates and corn». Myrtle was also mentioned several times in this same work as a medicinal plant: «The treatment of a sprain also involves a strengthening of the site by an oinment made from leaves of sesame and myrtle mixed together in a dish»; «An infusion of myrtle benefits burns. A syrup is also made, but it is no use drinking it against a cough or to cut diarrhoea unless you also take quince with it. From the seeds of myrtle an elixir is made» (Elgood 1962).

Myrtle in Anatolian-Turkish tradition

The famous Ottoman traveler Evliya Celebi (1611-1682), who journeyed throughout the Ottoman Empire and neighbouring lands over a period of forty years, had showed a particular interest to forests and trees and mentioned the glorious hills and creeks of the Aegean region adorned with myrtle and bay tree. French naturalist Pierre Belon (1517-1564), who was the first European to enlist Anatolian native plants, also men-

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tioned the myrtle bushes with white berries growing along the Mediterranean coast of Anatolia (Baytop 2004).

In accordance with the observations above, in Turkey the myrtle shrubs grow wildly in the rocky slopes, *Pinus brutia* forests, macchies, coastal sand dunes regions, just above sea level to 550 m. (especially in the West and South). Myrtle is known in Turkish as "mersin", "murt", "hambeles", "bahar", "elduran" and "sazak" (Baytop 1997, 1999). Its fruits are sold in the Aegean and Mediterranean town markets such as Bodrum, Milas in Muğla (a province covering the South-Western corner of Turkey) (Ertuğ 2004a).

During many periods of history, Anatolia served as a melting pot for different civilizations and many of the present-day customs had their roots in the religious beliefs of the early cultures. The myrtle's prominent place in funeral rites in the coastal regions of Turkey corroborates this link: myrtle is frequently used to perfume the water used to respectfully wash the deceased. In some villages of Milas, the shrouded body is placed on myrtle twigs which cover the bottom of the grave before the burial. In the same region, the common saying "to be in the embrace of myrtle" is used for a man who is at death's door. A more common tradition – as also witnessed by the authors of this article – in Bozburun in Marmaris (in Western Anatolia) and in Çıralı in Antalya (in Southern Anatolia), is for people to visit the graves and deck them with myrtle twigs on religious holidays (fig. 5). This is a common ritual in most of the Aegean, including towns such as Buldan in inner west Anatolia, where myrtus does not naturally grow (Ertuğ *et al*. 2004). According to local belief, myrtle shares and reduces the torments of the deceased in the grave and proclaims a blessing (Salawat) on the beloved Prophet (Çıblak 2002; Avcı 2003; Selçuk 2004; Çınar 2007). Dafni *et al*. also observed that myrtle is commonly planted in Muslim graveyards in Northern Israel, but only in one village young shoots are placed directly on the graves (Dafni *et al*. 2006). The funeral symbolism of this plant can be traced back to the original myths of Anatolia mentioned previously in this article.

In Turkish folk medicine, the leaves, fruits and volatile oil of *Myrtus communis* have been used for several purposes: the leaves are used to treat hypertension, hemorrhoids, common colds, cardiac disorders, urethral disorders, diarrhoea, internal diseases, rheumatic pain, edema in the extremities, to lower blood glucose, to pass kidney stones, as an appetite stimulant, hair restorer, wound healer and a haemostatic. The volatile oil (Myrtii Oleum) prepared from the leaves by steam distillation is also commonly used to lower blood glucose. The fruits are traditionally used for coughs and pneumonia, stomach disorders, kidney problems, thirst, vomiting, hair care, diarrhoea and hemorrhoids. The root is also used to treat hemorrhoids (Tuzlacı 2006; Baytop

5.- Bozburun (Marmaris-Muğla, Turkey) village cemetery; tombs decked with myrtle branches.

1999; Yeşilada *et al*. 1995; Ertuğ 2004b). Another interesting application is recorded in Buldan, where the dried leaves of myrtle is pounded to powder and mixed with salt. This mixture is applied to the naked body of new born babies when they are a few days old, after half an hour the baby is bathed. A similar application is made only with salt in other areas, to prevent the bad odor (Ertuğ *et al*. 2004).

Its buds and fruits have been used as spices since ancient times in Anatolia. A fragrant distilled water is prepared from its leaves and flowers to aromatize fruit juices (Baytop 1999).

The leaves and fruits of myrtle are used to dye wool fibers for weaving carpets and rugs in several areas of Anatolia. Dried leaves are boiled in water, wool yarns are added to the coloured water with a mordant substance and after a few hours the colour of the yarns becomes mustard yellow. The fruits give a characteristic dark brown colour (Yılmaz and Karakuş 1991; Doğan *et al*. 2003).

The boughs of myrtle are used to make garden arbors in the hot, dry summers of the Mediterranean region of Anatolia. These arbors are called "talvar" or "hayma" locally. The plant is also preferred for decoration at traditional wedding ceremonies. The bark and root are used, together with the oak gall, for tanning Turkish leather, to which they add a peculiar odour. The leaves are also used to dress the skin (Baytop 1999).

Although it is known that both the berries and the leaves are used to macerate an aromatic liqueur called *Mirto* at the islands of Sardinia and Corsica (Guarrera *et al*. 2006), a beverage use is not practiced in Anatolia.

Conclusion

Botany scientists may often feel that plants are not yet explainable as biochemical machines and that they have properties greater in value than the sum of their

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parts (Battey 2002). So, it is not surprising that our ancestors projected human and transcendental properties into plants (Kandeler and Ullrich 2009). The purpose of this review was to fully investigate the cultural and traditional aspects of *Myrtus communis* that hide behind the symbolism ascribed to it along the ages.

Throughout the history, the combination of the myrtle flower's attractive appearance, its edible berries, its sweet smell and its medicinal traits would have made the plant very appealing to the people living where this species could be found. In this respect, it is not difficult to imagine that an early relationship developed between man and this multi-purpose plant. In support of this argument, the authors have cited evidence from ancient mythology, authors of ancient times, religious stories, folk-lore and traditions originating especially from Asia Minor and the Eastern Mediterranean basin. The authors have also attempted to determine the natural and cultural origins of myrtle and to correctly identify the gaps the extent data. Since ancient times, many key plants were used in connection with graves and sanctuaries.

Today, some of the same symbolic plants and their secondary metabolites are being tested scientifically in order to feed future research in medicine and in biological plant protection (Kandeler and Ullrich 2009). Results have showed that myrtle is one of the oldest medicinal plants to have been applied as antiseptic, anti-inflammatory and hypoglycaemic agent in a continuous chain of traditions. However, there are few scientific reports about biological or pharmacological properties of myrtle and its extracts. For example, extracts and some isolated compounds of this plant have been reported to be efficient as antibacterial, antifungal, antioxidant and hypoglycaemic agents by some publishable studies, however more work is needed for *Myrtus communis* (Mansouri *et al*. 2001; Sacchetti *et al*. 2007; Yoshimura *et al*. 2008; Sepici *et al*. 2004).

Plants have played important roles in the oral traditions and the recorded myths of peoples worldwide, both ancient and modern. These roles are concerned with a variety of relationships. In this sense, every scientific approach to the plant kingdom must realize that «mythologic philosophies always antedate scientific philosophies». Because, as Dawkins (1998) pointed out, both myth-making and the reasoning ability of the human being, originate from the fruitful power of an imaginative stream which irrigates the intellect.

Notes

[1] Resources for the etymological information (Connection date: March 19, 2009) http://www.uni-graz.at/~katzer/ engl/ Myrt_com.html; http://www.unigraz.at/~katzer/engl/ Myri_fra. html, http://en.wikipedia.org/wiki/Myrrh).

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